Sandia National Laboratories

PROPOSAL FOR ADMINISTRATIVE NO FURTHER ACTION ENVIRONMENTAL RESTORATION SITE 105, MERCURY SPILL (BLDG. 6536) (TA-III) OPERABLE UNIT 1306

August 1994

Environmental
Restoration
Project

United States Department of Energy
Albuquerque Operations Office

PROPOSAL FOR ADMINISTRATIVE NO FURTHER ACTION

SITE 105, Mercury Spill (Bldg. 6536) (TA-III)
OU 1306

SANDIA NATIONAL LABORATORIES/NEW MEXICO

1.0 INTRODUCTION

Sandia National Laboratories/New Mexico (SNL/NM) is proposing an administrative No Further Action (NFA) decision for Environmental Restoration (ER) Site 105, Mercury Spill at Building 6536 Technical Area (TA)-III, Operable Unit (OU) 1306.

In 1972, discrepancies between the design capacity of a mercury bath and the actual contents indicated that mercury might have spilled from the bath. In addition, an explosion involving tubes containing mercury might have occurred and a small spill may have occurred in 1977 and 1982, respectively. Information is conflicting as to whether a mercury bath existed. Mercury-detection equipment was brought in but no traces of mercury were found. Therefore, Site 105 is being proposed for NFA.

2.0 HISTORY OF UNIT

Building 6536 (Attachment 1) formerly was used for testing aerospace nuclear safety systems. According to personnel interviews conducted during the Comprehensive Environmental Assessment and Response Program (CEARP) Phase 1 Assessment (DOE 1987), the pressure in the system was measured using a mercury bath. In 1972 the bath was examined and appeared to have between 11 and 13 pounds less mercury than its design capacity. Mercury-detection equipment (a mercury vapor detector) was brought in but no traces of mercury were found. It is possible that the bath was never filled to design capacity. The mercury bath was later removed (DOE 1987).

Interviews conducted for the RCRA Facility Investigation (RFI) indicate that the mercury bath may never have existed in Building 6536 (Confidential Personnel Interviews 1990, 1992). Interviewees explained that there had been an explosion of some tubes containing mercury. At some later date, the tubes, associated equipment, and concrete pad on which the experiment was placed were reportedly torn up and removed to an unknown location (Confidential Personnel Interviews 1990, 1992).

Additional interviews were conducted in 1992 to clarify the information previously collected. According to an interviewee, there are two areas of concern at the site. One area is within the building where, in 1982, a mercury bath (a 6 inch by 1/6 inch glass tube of mercury) broke. The accident occurred inside the building, was immediately cleaned up, and there was no mechanism by which the mercury could have escaped the area and entered the environment (i.e., through a drain). The second area of concern was an apparent "explosion" of some tubes containing mercury that occurred in 1977. This accident took place outside, the area was completely cleaned up, and the tubes, associated equipment, and impacted soils were removed and taken to an unknown location. The area is now covered by a concrete pad and a system of tanks and piping. Furthermore, according to the 1987 CEARP, previous surveys have found no residual contaminants at the site.

3.0 EVALUATION OF RELEVANT EVIDENCE

In the CEARP document (DOE 1987) this site is listed as a candidate for NFA, and is

described on page V-22 as follows:

- Building 6536 was formerly used for testing aerospace nuclear safety systems. A 5-MW plasma torch was located in a steel tank inside the building. The pressure in the system was measured using a mercury bath. In 1972, the bath was examined and found to contain about 11 to 13 pounds less than the design capacity of mercury. Mercury detection equipment was brought in but no traces of spilled mercury were ever found. The mercury bath was later removed (Site 105).

- CERCLA Finding--Negative for Federal Facility Site Discovery and Identification Findings, Preliminary Assessment, and Preliminary Site Inspection; therefore, no Hazard Ranking System migration mode score was calculated.

The potential contaminant of concern is mercury associated with either the mercury bath, or an explosion of mercury filled tubes. In either case, the equipment was subsequently removed. Previous surveys have reportedly found no residual contaminants (DOE 1987).

4.0 CONCLUSION

Under both scenarios, the presence of residual mercury was investigated and the source, associated equipment, and concrete pad were removed. Also, previous surveys have found no residual contaminants (McKelvey 1982). Based on this information, SNL/NM proposes that an NFA determination be granted for ER Site 105.

5.0 REFERENCES

Interviews. 1990, 1992. Interviews with current and retired Sandia Corporation personnel.

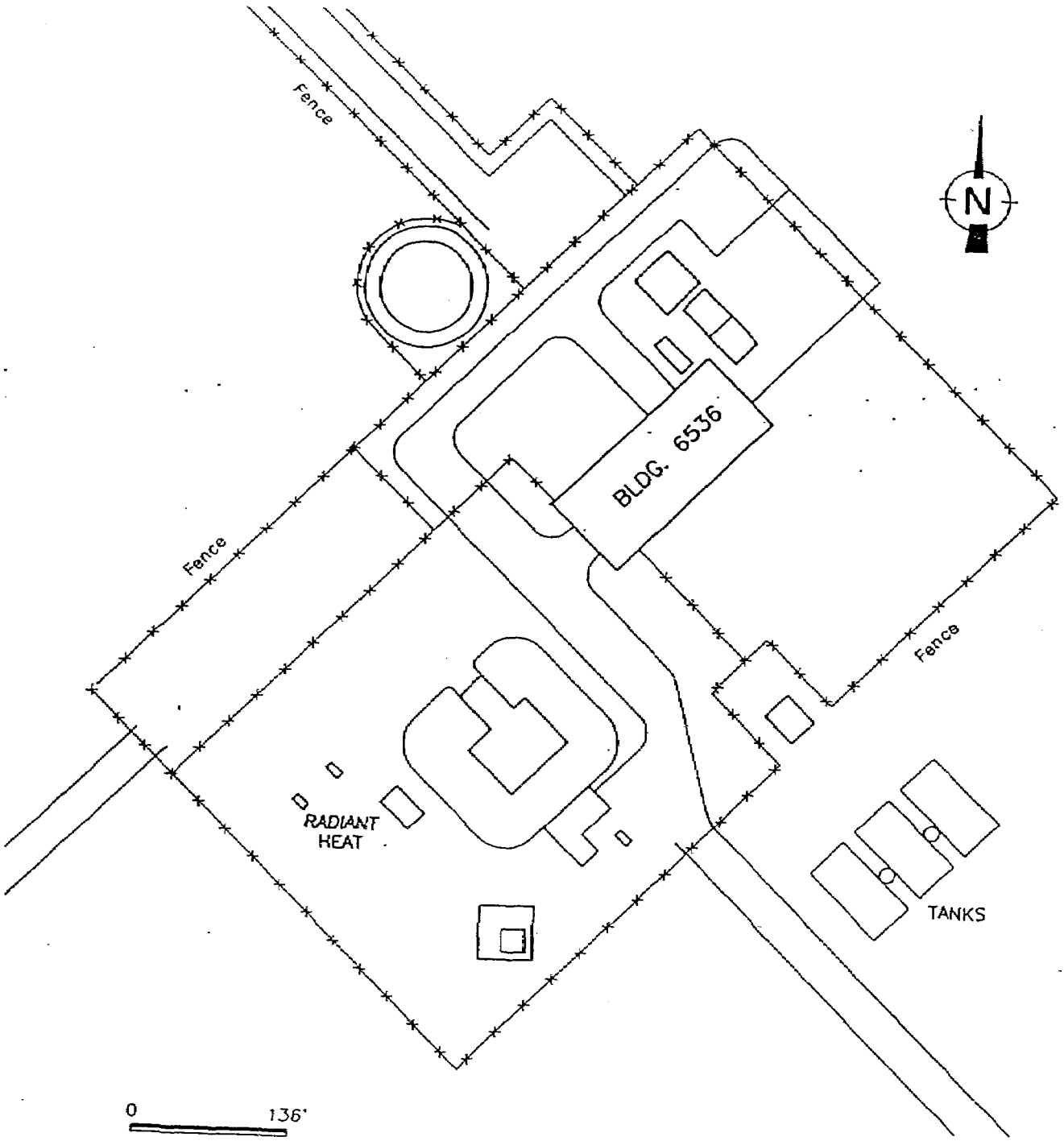
McKelvey 1982. Industrial Hygiene Services Investigation Report. Mercury Spill, Building 6536.

U.S. Department of Energy (DOE) 1987. "Draft Comprehensive Environmental Assessment And Response Program (CEARP), Phase 1: Installation Assessment," September 1987.

6.0 LIST OF ATTACHMENTS

Attachment 1
Site map of Building 6536

Attachment 1



SANDIA NATIONAL LABORATORIES
ENVIRONMENTAL RESTORATION PROGRAM
TASK AL-SA-1

TITLE:

SITE 105
MERCURY AT BUILDING
6536

ecology & environment, inc.
ALBUQUERQUE, NEW MEXICO

FIG. 1

Date: 03/90 Drawn by: RSM Scale: